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Bill Owens, Governor

Douglas H Benevento, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

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of Public Health
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DIST	LTR	ENC
BERARDINI, J. H.	X	X
BOGNAR, E. S.	X	X
BUCKETT, G. A.	X	X
DECK, C. A.	X	X
DEGENHART, K. R.		
JETER, T. J.		
JETER, S. E.		
FERRERA, D. W.	X	X
FERRI, M. S.		
GIACOMINI, J. J.		
ISOM, J. H.		
LINDSAY, D. C.		
LONG, J. W.		
LYLE, J. L.		
MARTINEZ, L. A.	X	X
NAGEL, R. E.	X	X
NORTH, K.	X	X
PARKER, A. M.		
RODGERS, A. D.		
SHELTON, D. C.	X	X
SPEARS, M. S.		
TRICE, K. D.		
TUOH, N. B.		
WILLIAMS, J. L.	X	X
BUTLER, L.	X	X
DAYTON, C.	X	X
PRIMROSE, A.	X	X
NININGER, R.	X	X
CABLE, J.	X	X
WINSTAN, L.	X	X
FIGHER, R.	X	X
RUKOVIN, A.	X	X

August 1, 2003

Joseph A Legare
Assistant Manager for Environment and Stewardship
U.S. Department of Energy
Rocky Flats Field Office
10808 Highway 93, Unit A
Golden, Colorado 80403-8200

**RE: Comments on Annual Report for the RFETS Groundwater Plume Treatment Systems --
January through December 2002**

Dear Mr Legare

The Colorado Department of Public Health and Environment, Hazardous Materials and Waste Management Division comments on this report are attached. We appreciate that this report tried to address issues we have raised about the effectiveness of ground water collection or treatment in these systems. We still have concerns about several of the systems, which are explained in the comments. We have considered that last year's drought may have added confusing elements to this data set and would like to work with the Water Programs and ER groups as appropriate to assess the performance data collected for these systems. Ground water studies do take time to collect and understand data.

The other point which we wish to emphasize is that the cost of long term monitoring and stewardship could be substantially reduced by use of in-situ treatment methods in the major VOC source areas.

If you have any questions regarding this correspondence please contact me at (303) 692-3367, Elizabeth Pottorff at 303-692-3429, Edgar Ethington at 303-692-3438

Sincerely,

Steven H. Gunderson
RFCA Project Coordinator

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SW-B-000042

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Comments on Annual Report for the RFETS Groundwater Plume Treatment Systems – January through December 2002

Section 2 2 1, Page 6 – The sampling plan for this monitoring should contain Quality Control samples that should be evaluated when lab contaminants appear in the data. The connection of the 900-2 contaminant plume with collection and treatment in the MSPTS requires further investigation, which we understand will be conducted by Water Programs

Section 2 2 2 - We appreciate the discussion with data to address our concerns regarding ground water flow in the vicinity of the collection barrier, this evaluation needs to continue as water levels return to normal

Please include the statistical significance of trend lines in Figures 5 & 6.

Section 3 2, page 13 – Please provide the data to support the correlation of water levels in 95199 and 23296 with Ponds B2 and B3 respectively

Section 3 2 3 – While the concentration of VOCs in 95199 appear to be lower than concentrations in well 23296 the State is still concerned about ground water preferential pathways because of our sampling results from Pond B2 which appear to be increasing. We have been collecting quarterly surface water samples from the Pond (center in May 2002 result about 200 ug/l TCE, southeast corner March 2003 result about 400 ug/l, other quarters have been non-detect except October 2002 with 2 2 ug/l)

Please include the statistical significance of trend lines in Figures 9-12. We disagree that the increasing trend in 23296 is due to an initial spike. The data appear to fluctuate, possibly seasonally, which should be evaluated. If the ground water in these areas is related to the ponds then there should be sufficient water to flush residual contaminants, not increasing trends. We would like to work with the site to be sure the effectiveness of this treatment system can be demonstrated.

Sections 3 1 and 3 3 – We were not aware of the bacterial buildup in the discharge lines, this additional operation and maintenance needs to be included in long-term stewardship information and estimates.

Section 4 1 – The additional maintenance of the pump and well development also needs to be included in long-term stewardship information and estimates. We are concerned that the treatment system failed to reduce the MST uranium closer to the standard. If the February 2002 sample at the discharge gallery was due to MST water, why did the effluent location have no flow? Doesn't the design data indicate the treatment system should have been able to handle 400 pCi/l uranium? What are the implications for long-term treatment of this plume, which may have concentrations of uranium of this magnitude in the future? The discussion on page 25 claiming 99 removal of nitrate and uranium does not make sense based on this occurrence, please explain.

A discussion on page 24 indicates there may be problems with the laboratory analysis, please check the quality control data for these samples and report whether these data are adequate.

The discussion of water flow through the treatment cell on page 25 suggests that siphoning could occur during discharge, could this explain the connection between the high U levels at the discharge gallery

while the effluent monitor registered no flow? Does this action cause influent to bypass the treatment cell?

Section 4.2 – It appears water levels in well 71202 are equilibrating at the elevation of the bottom of the trench. It is also very close to the same elevation as found in side gradient bedrock well 70299, which may indicate ground water flow around the treatment system, or may indicate the area of the trench that has underflow. This problem needs further analysis to be able to demonstrate this collection system is functional for the long term it will be needed. At this time water levels in well 71102 appear to show the ground water table is depressed by the treatment system.

Section 4.2.2 – The uranium ratios derived from the HR- ICP/MS study indicate that the higher uranium activity in the colluvial well 70099 is natural.

What is the statistical significance of the trend line shown in Figure 19?

Section 7.2 – First paragraph, Table 17 includes samples through January 2003 not November 2001.

Given the success shown in desorbing and degrading contaminants and also the nearly complete degradation of daughter products this treatability study should provide evidence that many of the RFETS VOC soil sources can be effectively reduced with this or similar products. We do not see evidence that this treatment creates a vinyl chloride problem as has been suggested by other site personnel when further use of this technology has been raised by the State. We continue to advocate reduction of long term responsibilities by treating plume source areas with HRC or other in-situ treatment methods.

Figure 30, the water table representation covers the PCE concentration graph. The PCE units on the graph are actually mg/kg.